



A System and Method for Redirecting Mail From a Received Message Store

BACKGROUND OF THE INVENTION

The present invention discloses a system for redirecting information from a local information storage area to another information storage area, using convention electronic mail transfer methods. In particular it discloses a method for mail redirection from a received message store to another message store. Specifically, in the preferred embodiment the method in question resides on the first message store so that information is re-routed from a secure, known location to a second location. In the preferred embodiment the second location is a wireless message store, like a two-way paging device.

In recent years electronic mail (e-mail) systems have grown tremendously over the past few years. Companies and users rely on them for critical decisions and daily information exchange. The reliability of these mail systems and usability have been taken for granted as they become common place in most companies. Basic e-mail is now also becoming augmented with calendar tracking, resource scheduling and task notification. The merging of these systems is in keeping with the fact that the user wants one central program and place to be notified of a wide range of events. Events like mail received, appointment in 5 minutes and complete task 6 all come to the user through one common interface and notification method. However, the computer industry has not kept up with the demands of mobility and the busy worker who is often away from their desk traveling, at meetings or simply interacting with other employees. This leads to a problem with the underlying notification system. Solving these problems and the problems of routing information seamlessly to another device is the purpose of the disclosed patent.

Currently with desktop systems the user has no easy way of redirecting messages and information to another location when they leave their desktop. For those limited few that can manage to get their message redirected, this is always just e-mail, all other types of messages cannot be redirected to another location. For those that do get messages to another location this is normally managed by 'forwarding' their mail which means it is

impossible to reply to messages received. This is caused because the original sender of the message is lost as the user's desktop becomes the new sender through the forwarding process. Changing the desktop mailer is one solution, but with millions of legacy system installed it is unpracticed. In the final situation if somehow the user is able to forward and get it back to the correct sender the original sender can tell it came from a location other than the desktop. In most cases special routing information has to be included in the message which causes the element of transparency to be lost. As a result a certain amount of privacy is lost and information that a user may not have wanted to be conveyed it given away.

As a result of all the aforementioned problems and complexity, there remains a further need for a system that can simply and easy redirect a wide range of e-mail, calendar, schedule, task and other 'notification-based' information to a location where the user is located. Such a system would ideally be customized by the user at their desktop, with the actual message redirection happening at either at the desktop or at a central server. Even when the described system is running at the server, its behaviour should be guided by the user. Such a system would also have to be seamless to message delivery and reply, so that all important information arrives to the alternative location as it originally was viewed, and that the reply path was not lost and looked to the original sender to be coming from the desktop, not the secondary location.

SUMMARY OF THE INVENTION

The present invention overcomes the problems noted previously and solves the needs in this field for seamless message redirection from one computer storage area to another computer storage area. The invention includes a message redirector at the primary storage area that is capable of being turned on and off as the user requires message redirection. The redirector is also capable of re-addressing the message information by placing another envelope around the original information. The effect of this additional envelope is to keep the original message and address contents intact while it is being redirected to the secondary storage location. The invention also allows the user

to select the types of information that will be redirected to the secondary location. This information could include e-mail, schedule and calendar information, task and resource notifications and even personal contact information. The invention also allows the user to set the address of the secondary storage location. This routing information is used by the redirector for placing the envelope on the original message.

The system of the present invention includes at least two computer systems. The first is the primary message storage area, in the preferred embodiment, is a desktop personal computer (PC) system. The second is the secondary message storage area, in the preferred embodiment, is a hand-held two-way wireless paging computer, a wirelessly enabled palm-top computer or a lap-top computer system. The system also includes two pieces of software working together to achieve a seamless communications path for message redirection. The first software component resides on the primary computer system and can take message from the desktop or put message back into the desktop in such a way that it is seamless to the normal desktop operation. The second software component resides on the secondary storage area and can put information into and take information out of the secondary message store. Both pieces of software add and subtract the extra envelope from the message when exchange information between them.

The preferred secondary storage area would be a mobile device on a wireless digital data network such as the Mobitex Radio Network ("Mobitex"), which has been developed by Eritel of Sweden, and is operated by RAM Mobile Data in the United States, or the DataTAC Radio Network ("DataTAC"), which has been developed by Motorola and is operated by Ardis in the United States.

According to the method of the present invention, message are redirected from a primary computer to a secondary computer by a redirector software computer by (i) identifying the information that must be redirected; (ii) waiting for a signal from the user to being redirecting information; (iii) redirection of information by adding an additional envelop that can be received and understood by the remote secondary storage area; (iv) reception and display of redirected information to the user; and (v) the ability to originate and reply to messages, causing information to go from the secondary back to the primary storage area.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention satisfies ...

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

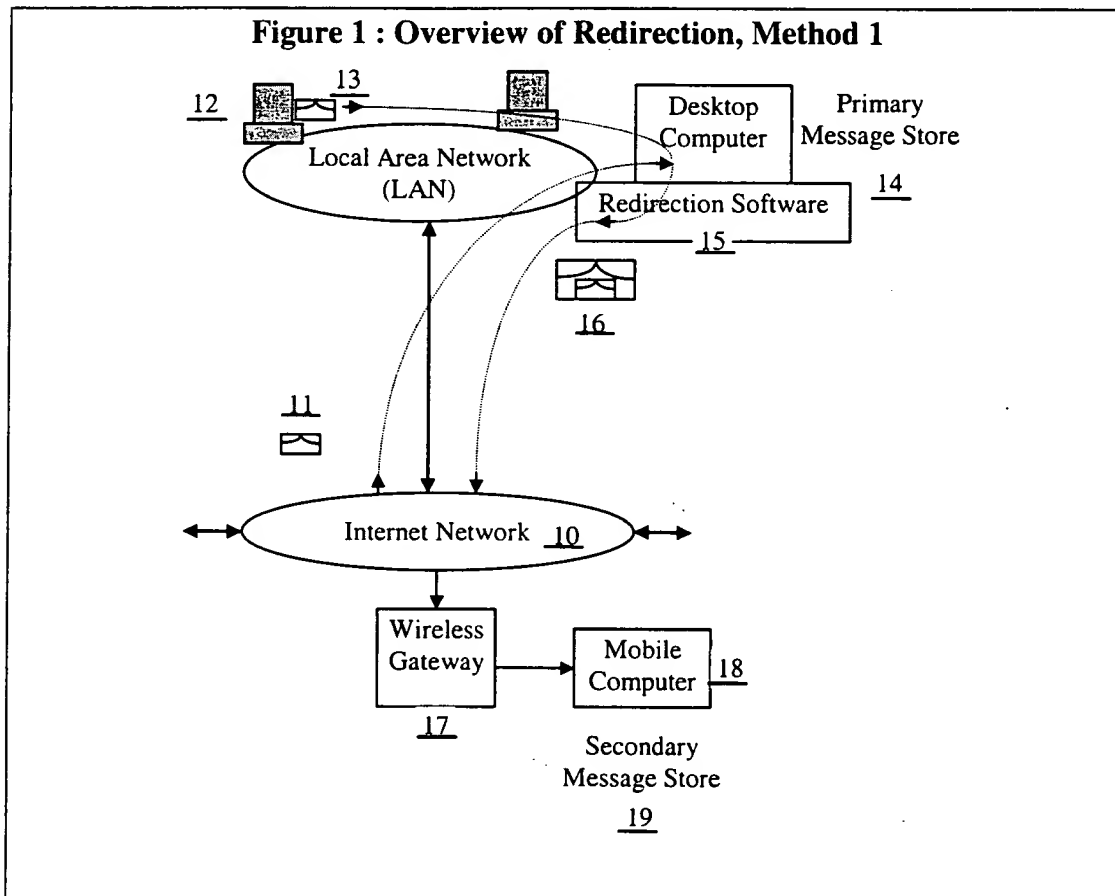
Referring now to the drawings, Figure 1 and Figure 2 set forth block diagrams of the two most common system configurations for operating the present invention. These two configurations would be well understood by those familiar with the art, it is well understood that other configuration could also be extended from these two basic configurations. Specifically the use of a Local Area Network (LAN) would be optional for the present invention, but in the business world the availability of a LAN has become common place.

The system of the present invention preferably includes a basic wide area network **10** for exchanging information and mail messages with many other computer systems. The most common information exchange network **10** would be the Internet as labeled in Figure 1 and Figure 2. Message **11** are exchanged between all network connections through their common connection to the Internet **10**. These messages are routed internally to the machine they are address, in this example the primary message store **14**, via the local area network **12**. Message from other machines in the LAN **13** can also be addressed to the primary message store via the LAN, often termed inter-office mail messages.

Once message reach the primary message store **14** they are detected by the redirection software **15**. The redirection software can use many method for being informed of new messages, in the preferred method using Microsoft's Messaging API (MAPI) programs register for notifications or 'advise syncs' when changes to a mailbox take place. The redirection software **15**, when activated, configured with redirection turned on, will then place the message into another message, creating a second envelope

around the original message **16**. The entire path of the message through the redirector shown pictorially by a dashed line in Figures 1 and 2.

During this process the redirection software could choose to compress the original header, compress the actual message text and encrypt the entire original message to create a secure link to the secondary message store **19**. The redirection software then sends the message to the secondary store **19**, using whatever means are necessary. In the preferred embodiment this method is to send the message back out the Internet **10** link since it is guaranteed to be available and because a wireless gateway **17** sits on the Internet **10** link to receive the redirected message. It would be possible to send it to a wide range of other recipients, the preferred embodiment uses a target secondary message store **19** to be in a wireless data network like Mobitex, mentioned earlier.



Once the redirected message 16 reaches the Wireless Gateway 17, it uses the addressing information on the outer envelope to determine which wireless mobile computer 18 to send the message to. Once the message is received by the mobile computer 18 the outer envelope is removed and the original message is placed in the secondary message store 19. By removing the outer envelope the user reading the message on the secondary store 19 sees the original subject, original sender's address, original destination address, original carbon copy address and original blind carbon addresses of the message.

Also important is that when the mobile user replies, or if the user authors a new message, the secondary location adds a similar double envelope to get the information back to the primary message store. The outside envelope allows the message to be routed to the primary message store and the inside envelope allows the message to be routed from the primary message store to the final destination user.

In Figure 2 all the major components are the same except the redirection software 15 has been moved to a new location and is called redirection server software 25. This is different then in Figure 1, due to the fact that each workstation in the LAN could run the redirection software if necessary, but in this case one central server has been used to perform the redirection service. This configuration is naturally with the large file server based LAN systems. New message servers like Microsoft's ® Exchange Server normally by default run so that all user messages are kept in one central location or mailbox store. In this configuration each user would customize their own profile, indicating which types of message and information they wanted redirected to their secondary message store 19.

This configuration has the advantage of allowing one main administrator configure and keep track of all users that are getting messages redirected. If there are encryption keys these too can be kept at one place for management and update purposes.

Figure 2 : Overview of Redirection, Method 2